

Adopted Levels, Gammas

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

Q(β⁻)=5158 13; S(n)=6276 13; S(p)=14331 13; Q(α)=-7457 14 [2012Wa38](#)
 Note: Current evaluation has used the following Q record 4650.0 SY6431.0 SY13676.0 syst-7387.0 syst [2003Au03](#).
 ΔQ(β⁻)=150, ΔS(n)=254, ΔS(p)=446, ΔQ(α)=446 ([2003Au03](#)).

¹⁰⁸Mo Levels

Cross Reference (XREF) Flags

- A ²⁴⁸Cm SF decay
- B ¹⁰⁸Nb β⁻ decay
- C ²³⁸U(α,Fγ)
- D ²⁵²Cf SF decay

E(level)	J ^π †	T _{1/2}	XREF	Comments
0.0 [‡]	0 ⁺	1.09 s 2	ABCD	%β ⁻ =100 T _{1/2} : from 1995Jo02 . Others: 1.5 s 4 (1972Tr08) from 242γ growth-decay of chem separated technetium daughter, 0.9 s 4 (1970WiZN), 1.5 s 5 (1969WiZX) 258γ decay curve.
192.79 [‡] 15	2 ⁺	0.5 ns 3	ABCD	T _{1/2} : from βγ(t) in ¹⁰⁸ Nb decay (1996Pe25).
563.69 [‡] 19	4 ⁺		ABCD	
586.01 [#] 15	2 ⁺		ABCD	
782.97 [#] 18	3 ⁺		ABCD	
978.29 [#] 18	4 ⁺		A CD	
1090.7 [‡] 3	6 ⁺		A CD	
1232.10 [#] 20	5 ⁺		A CD	
1422.4 [@] 4	(4 ⁺)		D	
1507.8 [#] 3	(6 ⁺)		A CD	
1698.76 [@] 21	(5 ⁺)		A D	
1752.8 [‡] 3	8 ⁺		A CD	
1817.3 [#] 3	(7 ⁺)		A CD	
1957.1 [@] 4	(6 ⁺)		D	
2162.2 ^{&} 5	(5 ⁻)		D	
2170.1 [#] 3	(8 ⁺)		A CD	
2223.33 [@] 24	(7 ⁺)		A D	
2450.6 ^a 5			D	
2524.3 [#] 3	(9 ⁺)		A CD	
2529.4 [‡] 5	10 ⁺		A CD	
2556.0 ^{&} 5	(6 ⁻)		D	
2593.6 [@] 3			A D	
2883.1 [@] 6	(9 ⁺)		D	
2949.6 [#] 4	(10 ⁺)		CD	
2999.8 ^a 5			D	
3111.2 ^{&} 6	(7 ⁻)		D	
3338.5 [#] 4	(11 ⁺)		CD	
3343.1 [@] 7	(10 ⁺)		D	

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Adopted Levels, Gammas (continued)

^{108}Mo Levels (continued)

E(level)	J^π †	XREF
3401.4‡ 5	12 ⁺	CD
3666.2 ^a 6		D
3796.8& 7	(8 ⁻)	D
3834.4# 8	(12 ⁺)	D
4347.0‡ 5	14 ⁺	CD
5347.5‡ 6	16 ⁺	C

† Based on systematics, band structure, γ mult (DCO).

‡ Band(A): g.s. band.

Band(B): possible γ -vibrational band.

@ Band(C): Two-phonon γ -vib band.

& Band(D): $\pi 7/2[413] \otimes \pi 3/2[312]$.

^a Band(E): γ cascade.

$\gamma(^{108}\text{Mo})$

E_i (level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	Comments
192.79	2 ⁺	192.7 2	100	0.0	0 ⁺	E2	B(E2)(W.u.)=1.4×10 ² 9
563.69	4 ⁺	370.9 2	100	192.79	2 ⁺		
586.01	2 ⁺	393.2 2	100 <i>11</i>	192.79	2 ⁺		
		586.1 2	54 <i>11</i>	0.0	0 ⁺		
782.97	3 ⁺	196.9 2	19.2 <i>13</i>	586.01	2 ⁺		
		219.4 2	9.0 <i>13</i>	563.69	4 ⁺		
		590.1 2	100 <i>3</i>	192.79	2 ⁺		
978.29	4 ⁺	195.2 2	14 <i>6</i>	782.97	3 ⁺		
		392.4 2	91 <i>11</i>	586.01	2 ⁺		
		414.6 2	100 <i>11</i>	563.69	4 ⁺		
		785.5 2	80 <i>9</i>	192.79	2 ⁺		
1090.7	6 ⁺	527.0 2	100	563.69	4 ⁺		
1232.10	5 ⁺	253.7 2	7.5 <i>15</i>	978.29	4 ⁺		
		449.2 2	100 <i>3</i>	782.97	3 ⁺		
		668.3 2	42 <i>3</i>	563.69	4 ⁺		
		1039.4		192.79	2 ⁺		
1422.4	(4 ⁺)	443.6		978.29	4 ⁺		
		639.2		782.97	3 ⁺		
		836.3		586.01	2 ⁺		
1507.8	(6 ⁺)	529.5 2	100	978.29	4 ⁺		
1698.76	(5 ⁺)	466.4 3	33 <i>6</i>	1232.10	5 ⁺		
		720.6 2	63 <i>8</i>	978.29	4 ⁺		
		915.8 2	100 <i>10</i>	782.97	3 ⁺		
1752.8	8 ⁺	662.1 2	100	1090.7	6 ⁺		
1817.3	(7 ⁺)	309.5		1507.8	(6 ⁺)		
		585.2 2	100	1232.10	5 ⁺		
		726.6		1090.7	6 ⁺		
1957.1	(6 ⁺)	257.9		1698.76	(5 ⁺)		
		534.5		1422.4	(4 ⁺)		
		724.5		1232.10	5 ⁺		
		978.3		978.29	4 ⁺		
2162.2	(5 ⁻)	1071.0		1090.7	6 ⁺		
		1598.2		563.69	4 ⁺		
2170.1	(8 ⁺)	662.3 2	100	1507.8	(6 ⁺)		

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Adopted Levels, Gammas (continued) $\gamma(^{108}\text{Mo})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π
2223.33	(7 ⁺)	524.6 2		1698.76	(5 ⁺)	2999.8		829.2		2170.1	(8 ⁺)
		991.2 2		1232.10	5 ⁺			1246.5		1752.8	8 ⁺
2450.6		942.3		1507.8	(6 ⁺)	3111.2	(7 ⁻)	555.2		2556.0	(6 ⁻)
		1359.4		1090.7	6 ⁺			1357.9		1752.8	8 ⁺
2524.3	(9 ⁺)	707.0 2	100	1817.3	(7 ⁺)	3338.5	(11 ⁺)	814.2 2	100	2524.3	(9 ⁺)
2529.4	10 ⁺	776.6 3	100	1752.8	8 ⁺	3343.1	(10 ⁺)	749.8 2	100	2593.6	
2556.0	(6 ⁻)	393.8		2162.2	(5 ⁻)	3401.4	12 ⁺	872.0 2	100	2529.4	10 ⁺
		802.7		1752.8	8 ⁺			666.4 2		2999.8	
		1464.8		1090.7	6 ⁺			1135.6 2		2529.4	10 ⁺
2593.6		370.3 2	100	2223.33	(7 ⁺)	3796.8	(8 ⁻)	685.6 2	100	3111.2	(7 ⁻)
2883.1	(9 ⁺)	659.2 2	100	2223.33	(7 ⁺)	3834.4	(12 ⁺)	884.5 2	100	2949.6	(10 ⁺)
2949.6	(10 ⁺)	779.5 2	100	2170.1	(8 ⁺)	4347.0	14 ⁺	945.6 2	100	3401.4	12 ⁺
2999.8		549.2		2450.6		5347.5	16 ⁺	1000.5 2	100	4347.0	14 ⁺

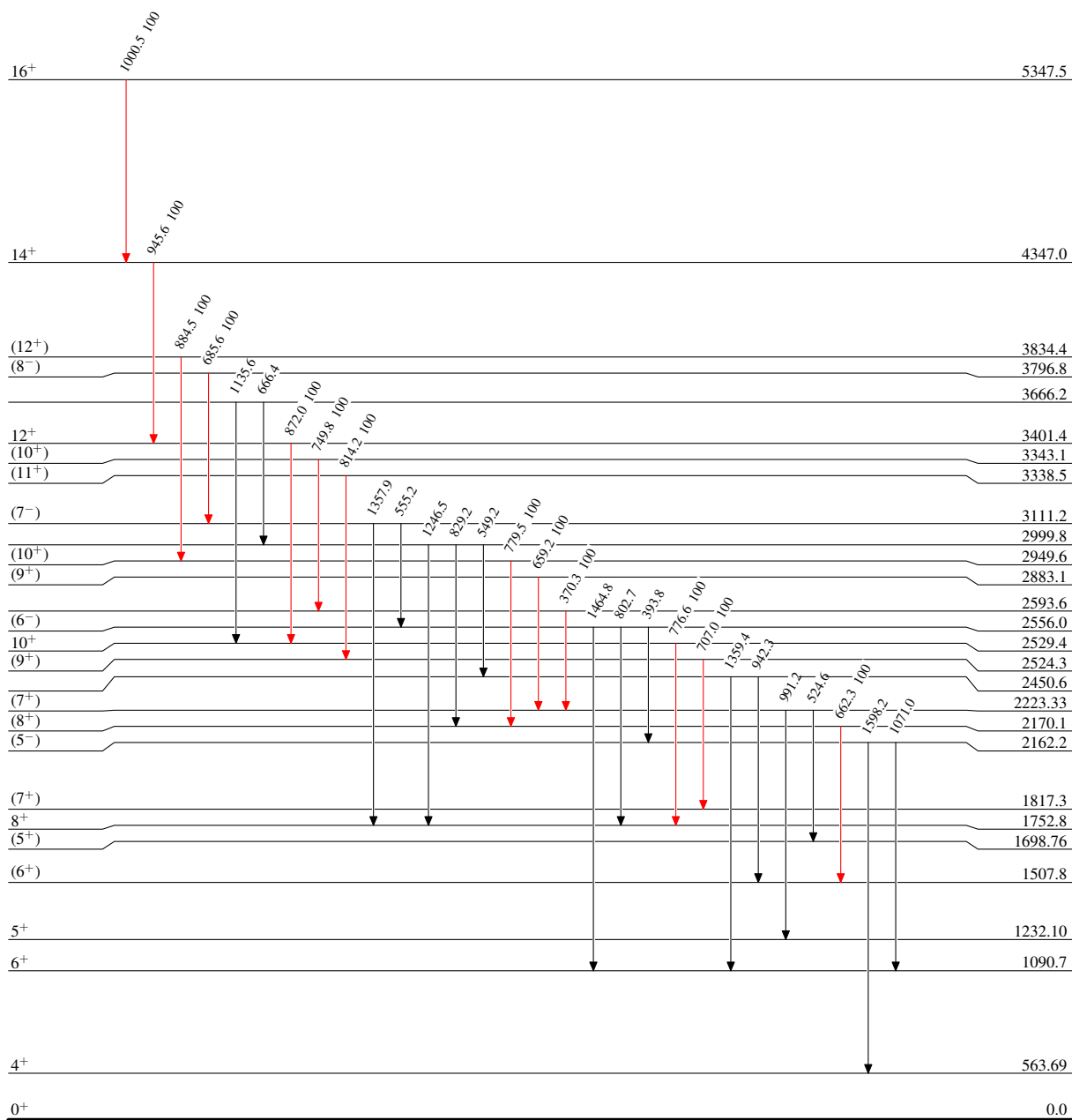
Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



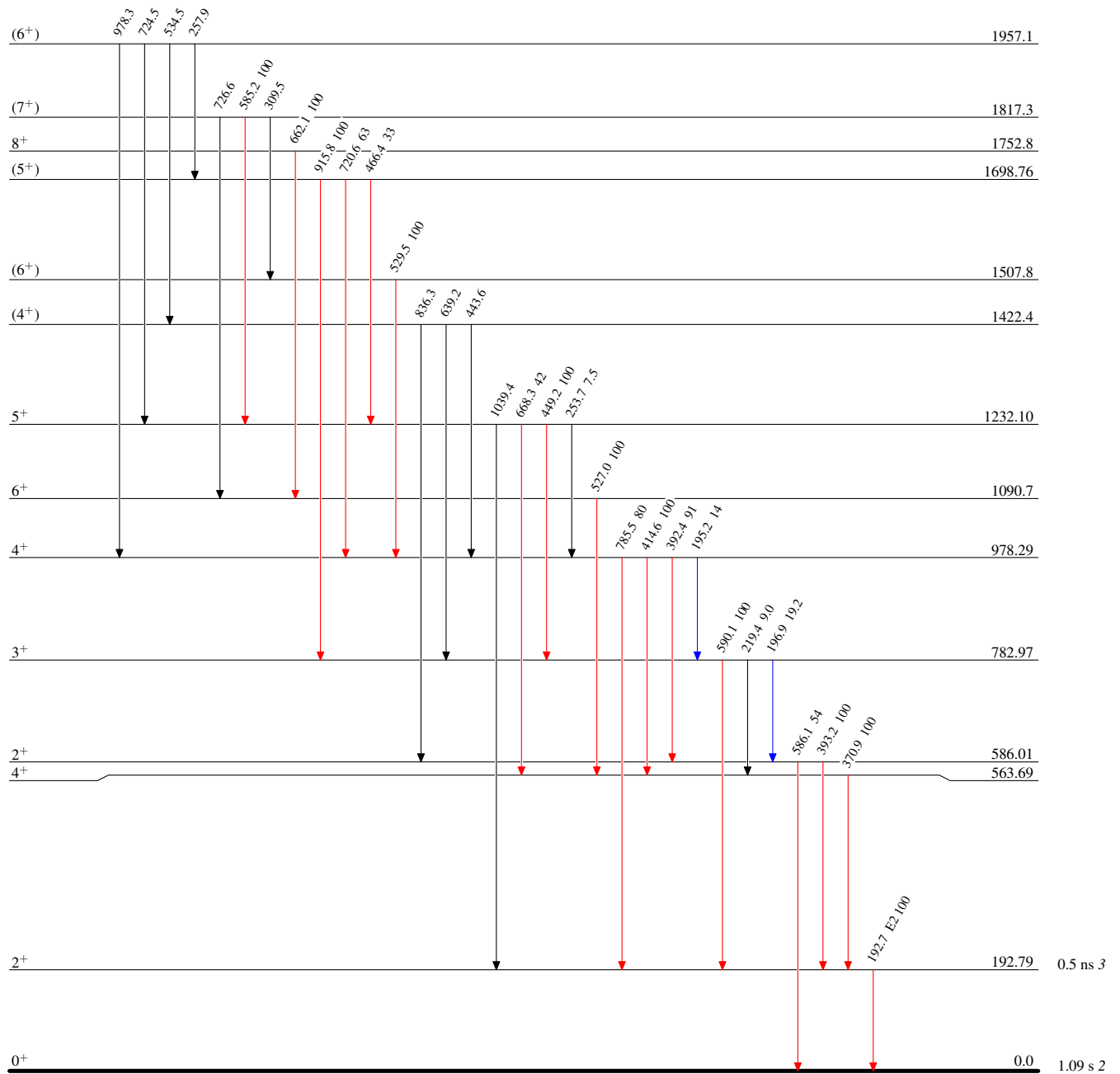
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Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$

 $^{108}_{42}\text{Mo}_{66}$

Adopted Levels, Gammas